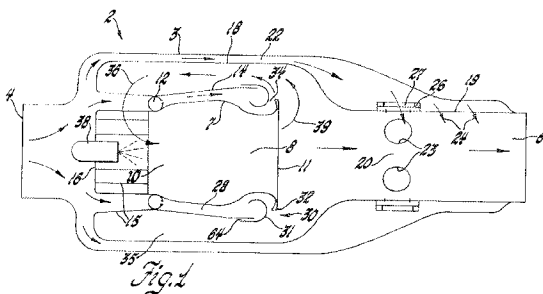


Claim 1 relates to a gas turbine having a combination of elements including, *inter alia*, flue gas re-circulation means for re-circulating the flue gas from the combustion chamber and mixing the flue gas with the compressed oxidant from the compressor to provide a highly diluted mode of combustion with a non-visible flame with a flue gas re-circulation rate of from 100% to 200%.

Claim 20 relates to a method of operating a gas turbine having a combination of steps including, *inter alia*, using a flue gas re-circulation means to re-circulate the flue gas from the combustion chamber and mix the flue gas with the compressed oxidant from the compressor in order to provide a highly diluted mode of combustion with a non-visible flame with a flue gas re-circulation rate of from 100% to 200%.



Sherman describes a recirculating combustion apparatus jet pump and an associated method that are not read on by the combinations of the pending claims. Fig. 1 of *Sherman* has been reproduced herein to assist in an understanding of the recirculation which forms a part of *Sherman*'s

invention.

At column 1, lines 38-52, *Sherman* discusses the meaning of 'recirculation' within the context of his invention:

To minimize nitrogen oxides a relatively high recirculation ratio is desired, of the order of one to two. **The recirculation ratio is the ratio of flow per unit time of recirculated combustion products to flow of primary combustion air entering the combustion apparatus. This is to be distinguished from dilution air which is mixed with the combustion products at the termination of combustion.** It is important to effect the recirculation with a minimum of pressure loss in the combustion apparatus, because pressure drops in the combustion apparatus detract from the efficiency of the gas turbine engine. It is also desirable that the recirculation ratio remain substantially constant over a wide range of flow rates as the output of the combustion chamber is varied to vary engine power output.

(emphasis added)

That is, with reference to the flows illustrated in Fig. 1 of *Sherman*, this recirculation is the mass flow rate of flow 39 to the mass flow rate of air either entering the apparatus inlet 4, or the mass

flow rate of that inflow that flows through air duct 28 (the balance of the inflowing fresh air is used as dilution air by passing through duct 22 and out ports 23, 24). *Sherman* explains:

Primary air discharged through the nozzle 34 between the body and lip flows upstream through the recirculation passage 35 defined between walls 14 and 18 and then, as indicated by the arrow 36, between tubes 15 into the combustion zone 8. Fuel is introduced through a nozzle 38 supplied from any suitable source and is ignited by suitable means (not illustrated). Combustion products flow through the outlet at the downstream end 11 of the combustion zone. As indicated by arrow 39, a portion of these combustion products are entrained and pumped by the flow from jet nozzle 34 into the recirculating passage. Preferably, approximately one to two times as much combustion products are recirculated as the flow of primary combustion air through duct 28. The remainder of the combustion products flow to the dilution zone 20 where additional air is mixed with them, and the resulting mixture is discharged through the outlet 6.

(Col. 2, lines 44-58)

Therefore, *Sherman*'s term 'recirculation' is defined differently from the way that Applicant defines that term at paragraph [0005] of this application, resulting in the claimed combinations not reading on *Sherman*. *Sherman*'s definition does not account for fuel mass flow, while Applicant's does; there is no disclosure in *Sherman* about what his fuel mass flow rates would be, and therefore there is no way to extrapolate from *Sherman*'s definition of 'recirculation' to determine what would be the rate of recirculation in *Sherman*'s apparatus and methods under Applicant's definition of the term.

For at least the foregoing reasons, Applicant respectfully submits that *Sherman* fails to identically disclose or describe apparatus or methods that include each and every feature recited in the combinations of the pending claims. Accordingly, Applicant respectfully submits that *Sherman* fails to anticipate the claimed combinations under 35 U.S.C. § 102, and therefore respectfully requests withdrawal of the rejections thereunder.